

REMARKS

Please reconsider the application in view of the above amendments and the following remarks. Applicant thanks the Examiner for carefully considering this application.

Rejections under 35 U.S.C. 102(e)

Claims 1-10, 14-16, 21-33, 38-39, 47-50, 52-63 and 68-69 stand rejected under 35 U.S.C. 102(e) as being anticipated by Cisar et al. U.S. Pat. 2003/0003343. Cisar et al. (U.S. Publication 2003/0003343) teaches the bonding of electrochemical cell components to prepare subassemblies. (Cisar et al., Title; Abstract). Cisar et al. discloses a bipolar plate 48 having a metal gas barrier 50 with metal flow fields 52 and polymer cell frames 54. (Cisar et al., para. [0030]; and Figure 3).

The examiner asserts that Cisar teaches a bipolar [plate] comprising: a fluid barrier; a sealing frame formed around a perimeter of the fluid barrier. (Office Action dated August 6, 2008, page 3, lines 3-4; citing Cisar, para. [0030]). Then, the examiner asserts that no patentable weight should be given to the limitation of "injecting a polymer into a mold" on the basis that this is a process limitation in a product claim. (Office Action dated August 6, 2008, page 3, lines 4-14). These two assertions appear to be the only statements in support of the anticipation rejection against claim 1.

Regarding the teachings of Cisar et al., the Applicant would point out that the cited paragraph [0030] of Cisar et al. does not use the word "perimeter" and does not disclose a sealing frame formed "around a perimeter" of the fluid barrier, as asserted by the examiner. As a first matter, the phrase "around a perimeter" as used in claim 1 must be given a reasonable interpretation consistent with the specification and consistent with the understanding of those skilled in the art. Claims must be given the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant's specification. *In re Morris*, 127 F.3d at 054-55. Claims are not to be read in a vacuum, and limitations therein are to be interpreted in light of the specification in giving them their "broadest reasonable

interpretation.” *In re Marosi*, 710 F.2d at 802 [Emphasis in original]. The broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach. *In re Cortright*, 165 F.3d at 1359.

The present specification uses the phrase “around a perimeter” to describe the position of a sealing frame relative to the outer limits of the fluid barrier. For example, the first paragraph of the detailed description states:

The present invention provides a bipolar plate for use in an electrochemical cell stack comprising a fluid barrier and a sealing frame that is formed *around* and overlaps *the perimeter* of the fluid barrier. The sealing frame is formed around the fluid barrier by, for example, placing the fluid barrier in a mold and then injecting a polymer into the mold, thereby forming the sealing frame around the fluid barrier such that the sealing frame overlaps the perimeter of the fluid barrier. Because there are no surfaces to seal between the perimeter of the fluid barrier and the sealing frame, gaskets or other sealing surfaces are not required, thereby providing a slimmer and lighter bipolar plate having fewer parts to assemble.

(Specification, page 7, line 23-31)

It should be noted that the sealing frames are formed “around the perimeter”, but may also “overlap” the perimeter. For example, one embodiment teaches that “[p]referably, the sealing frame overlaps the fluid barrier perimeter just sufficiently to allow the formation of a fluid tight seal.” (Specification, page 9, lines 15-16). The present specification draws a distinction between “around the perimeter” and “overlaps the perimeter.”

In addition, the present specification uses the term “perimeter” in consistent manner in regard to the position of a retaining band relative to the sealing frames.

Optionally a retaining band may be provided around the outer perimeter of the sealing frames. The optional retaining band provides hoop stress reinforcement to insure pressure containment if pressure containment is a requirement for a particular application. (Specification, page 9, lines 23-25).

Still further, the Cisar et al. reference itself uses the term “perimeter” to describe the position of a bolt holes 14 relative to the flow field 12 that forms the central portion of the plate 10 (Cisar et

al., para. [0003]; Figure 1), and to describe the position of a frame relative to an electronically conducting flow field (Cisar et al., para. [0015]). These uses of the term "perimeter" are evidence of how one having ordinary skill in the art would interpret the term "perimeter" as used in the context of the construction of a bipolar plate. Cisar et al.'s use of the term "perimeter" is also consistent with the Applicant's own use of the term "perimeter" in the present specification and claims.

Giving the appropriate *reasonable* interpretation to the phrase "around the perimeter", it is clear that Cisar et al. teaches "a frame disposed around a perimeter of the electronically conducting flow field" (Cisar et al. at para. [0015]), but does not teach a sealing frame "around the perimeter" of a fluid barrier as set out in present claim 1.

Applicant asserts that even if the reference to "injecting a polymer into a mold" is a process limitation, it is improper to ignore the entire limitation of the claim. Rather, the product formed by the process limitation must be given patentable weight. Because the bipolar plate of claim 1 comprises a sealing frame formed "around a perimeter of the fluid barrier" and "overlapping the perimeter of the fluid barrier" the product itself is distinct from the disclosure of Cisar et al. Reconsideration and withdrawal of the rejection is requested.

Although independent claims 21 and 47 include the term "perimeter", they do not expressly use the phrase "around the perimeter." Still, claim 21 states that the anode and cathode frames are adapted to receive a perimeter of the fluid barrier and that the anode and cathode frames are bonded together. Whereas claim 47 describes a fluid cooled bipolar plate, the claim requires the bonding of a cooling frame to an anode frame and a cathode frame. Cisar et al. does not disclose any two frames being bonded together. Reconsideration and withdrawal of the rejection is requested.

Furthermore, it is noted that the dependent claims may be distinct from the disclosure of Cisar et al. for additional reasons. However, the examiner's citations to Cisar et al. do not reference specific claims and this has left Applicant to speculate about which citations are being asserted against which claims. Applicant requests clarification and reserves the right to distinguish the dependent claims as necessary.

Rejections under 35 U.S.C. 103

Claims 11-13, 40-46, 51 and 70-76 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Cisar et al. U.S. Pat. 2003/0003343 in view of Ren et al. U.S. Pat. 6,986,961.

Claims 17-20, 34-37 and 64-67 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Cisar et al. U.S. Pat. 2003/0003343 in view of Malikayil U.S. Pat. 5,993,494.

Statement of Common Ownership

The subject matter of Cisar et al. (U.S. Pat. Appl. Publ. No. 2003/0003343) and the present application 10/727,854 were, at the time the invention was made, owned by the same person(s).

Having set forth sufficient evidence of common ownership, the foregoing rejections of the claims under 35 U.S.C. 103(a) are improper, as a matter of law, under 35 U.S.C. § 103(c)(1). Reconsideration and withdrawal of the rejections is respectfully requested.

In the event there are additional charges in connection with the filing of this Response, the Commissioner is hereby authorized to charge the Deposit Account No. 50-0714/LYNN-0161 of the firm of the below-signed attorney in the amount of any necessary fee.

Respectfully submitted,

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